WHAT IS CLAIMED IS:

1. An ignition control apparatus for an internal combustion engine, comprising:

an ignition circuit provided in correspondence to a cylinder of said internal combustion engine;

a rotor rotatable in synchronism with rotation of a crank shaft of said internal combustion engine;

a plurality of projections provided on and along an outer periphery of said rotor with a predetermined angular distance therebetween;

a rotation sensor disposed in opposition to said plurality of projections; and

an ignition timing control circuit for fetching as a reference angular position signal a rotation sensor signal generated by said rotation sensor every time said projection is detected, to thereby output a driving signal to said ignition circuit,

wherein said ignition timing control circuit includes:

timer ignition control means for an ordinary operation mode of said internal combustion engine; and

retarded ignition control means for an operation range in which rotation speed of said internal combustion engine is lower than the rotation speed in said ordinary operation mode,

wherein said retarded ignition control means includes:

period measuring means for measuring a period of a specific interval of said rotation sensor signal; and

arithmetic means for generating said driving signal in dependence on the period of said specific interval and validating a succeeding rotation sensor signal generated in succession to said specific interval, and

wherein said arithmetic means includes:

expectation period setting means for setting on the basis of the period of said specific interval an expectation period during which said succeeding rotation sensor signal is expected to be generated and accepted when said internal combustion engine is operating in a forward rotation mode, to thereby validate only the

succeeding rotation sensor signal that is inputted during said expectation period.

2. An ignition control apparatus for an internal combustion engine according to claim 1,

said rotation sensor being constituted by an electromagnetic pickup,

wherein said plurality of projections includes a first projection having both edge portions each formed of a magnetic material and corresponding to first and second reference angles, respectively, of said cylinder, and a second projection having both edge portions each formed of a magnetic material and corresponding to third and fourth reference angles, respectively, of said cylinder,

said first and second reference angles are set at sufficiently advanced timer reference angles so as to be capable of being used by said timer ignition control means,

said third reference angle is set at an angle advanced relative to a top dead center (TDC) in a compression stroke of said cylinder,

said fourth reference angle is set at a position in the vicinity of the top dead center (TDC) in said compression stroke so as to define a retarded ignition position for said retarded ignition control means, and

wherein said specific interval includes at least one specific interval selected from a group consisting of a first specific interval extending from said first reference angle to said second reference angle, a second specific interval extending from said first reference angle to said third reference angle, and a third specific interval extending from said second reference angle to said third reference angle.

3. An ignition control apparatus for an internal combustion engine according to claim 2,

wherein said rotation sensor generates sequentially first to fourth rotation sensor signals,

said period measuring means is so designed as to measure

a first period extending from a generation timing of said first rotation sensor signal to a generation timing of said second rotation sensor signal as well as a second period extending from a generation timing of said first rotation sensor signal to a generation timing of said third rotation sensor signal,

said expectation period setting means is so designed as to set a first expectation period for accepting said third rotation signal on the basis of said first period, while deciding that said generation timing of said third rotation sensor signal corresponds to said third reference angle when said third rotation sensor signal is inputted during said first expectation period, to thereby set a second expectation period for accepting said fourth rotation sensor signal, and

wherein said arithmetic means is so designed as to perform the retarded ignition control in dependence on said generation timing of said fourth rotation sensor signal only when said fourth rotation sensor signal is inputted during said second expectation period.

4. An ignition control apparatus for an internal combustion engine according to claim 3,

wherein said arithmetic means is so designed as to inhibit the output of said driving signal corresponding to said fourth rotation sensor signal when said first period has exceeded a predetermined threshold value inclusive.

5. An ignition control apparatus for an internal combustion engine according to claim 3,

wherein said period measuring means is so designed as to measure a third period extending from a generation timing of said second rotation sensor signal to a generation timing of said third rotation sensor signal, and

wherein said arithmetic means is so designed as to inhibit output of said driving signal in response to said fourth rotation sensor signal when said third period exceeds a predetermined threshold value inclusive.

6. An ignition control apparatus for an internal combustion engine according to claim 3,

wherein said period measuring means is so designed as to measure a third period extending from a generation timing of said second rotation sensor signal to a generation timing of said third rotation sensor signal, and

wherein said arithmetic means is so designed as to inhibit output of said driving signal in response to said fourth rotation sensor signal when a ratio of said third period to said first period exceeds a predetermined threshold value inclusive.

7. An ignition control apparatus for an internal combustion engine according to claim 4,

further comprising:

a temperature sensor for detecting temperature of said internal combustion engine,

wherein said arithmetic means includes a variable threshold value setting means for increasing said threshold value as a function of rising of said temperature.

8. An ignition control apparatus for an internal combustion engine according to claim 1,

further comprising:

a load sensor for detecting a load of said internal combustion engine,

wherein said arithmetic means includes a variable expectation period setting means for shortening said expectation period as a function of increasing of said load.